

CLAIMS

1 1. A coated luminescent material comprising a luminescent material powder
2 formed by grains, the luminescent grains being coated, wherein the layer thickness of
3 the coating is at most 5 nm and, in particular, is less than or equal to 3 nm.

1 2. The coated luminescent material as claimed in claim 1, wherein the
2 luminescent material is selected from the group: garnets, chlorosilicates, thiogallates
3 and aluminates, nitridosilicates and vanadates.

1 3. The coated luminescent material as claimed in claim 2, wherein the
2 luminescent material contains rare earth metals as constituents.

1 4. The coated luminescent material as claimed in claim 1, wherein a material
2 is selected from at least one of following groups for the coating:

- 3 • alkylsilyl halides, in particular of the type R_2SiX_2 with R = alkyl and X = Cl or Br;
- 4 • arylsilyl halides, in particular of the type Ar_3SiX or Ar_2SiX_2 , where Ar = phenyl in
- 5 particular;
- 6 • phenyl-substituted silicon alkoxides;
- 7 • alkyl halides of the type $R-X$;
- 8 • acyl halides of the type $R-C=O$



11 in each of which R = aliphatic residue and X = halogen, preferably Cl or Br.

1 5. The coated luminescent material as claimed in claim 1, wherein the layer
2 thickness is between 0.1 and 2 nm.

1 6. The coated luminescent material as claimed in claim 1, wherein a second
2 layer of flame-hydrolytically produced metal oxides is applied to the first layer.

1 7. A light-emitting device, having at least one radiation source which emits
2 essentially within the range of from 150 to 600 nm, and a luminescent layer which

3 converts the light from the light source at least partially into longer-wave radiation, the
4 luminescent layer being formed by particles which are coated, as claimed in claim 1.

1 8. A light-emitting device, having at least one radiation source which emits
2 essentially within the range of from 150 to 600 nm, and a luminescent layer which
3 converts the light from the light source at least partially into longer-wave radiation, the
4 luminescent layer being formed by particles which are coated, as claimed in claim 4.

1 9. The light-emitting device as claimed in claim 7, wherein the radiation
2 source is a UV-emitting LED, which emits with a peak wavelength in the range of from
3 300 to 420 nm.

1 10. The light-emitting device as claimed in claim 7, wherein the radiation
2 source is a blue-emitting LED, which emits with a peak wavelength in the range of from
3 425 to 490 nm.

1 11. The light-emitting device as claimed in claim 7, wherein the radiation
2 source is a high-pressure discharge lamp, which emits essentially in the range of from
3 200 to 490 nm.

1 12. The light-emitting device as claimed in claim 7, wherein the radiation
2 source is an excimer discharge device, which emits essentially in the range of from 150
3 to 320 nm.